REMARKS

This application has been carefully considered in connection with the Examiner's Office Action dated February 7, 2007. Reconsideration and allowance are respectfully requested in view of the following.

Summary of Rejections

Claims 1 - 54 were pending at the time of the Office Action.

Claims 33 - 46 and 54 were restricted and are herein withdrawn.

Claims 1 – 32 and 47 - 53 were rejected under 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 was rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1 – 32 and 47 - 53 were rejected under 35 USC § 103(a) as being unpatentable over Bachman et al, U.S. Patent No. 4,320,451 (hereinafter "Bachman") in view of Bratt et al, U.S. Patent No. 4,525,780 (hereinafter "Bratt").

Summary of Response

Claims 1 and 20 are amended.

Claims 2-19, 21-32, and 47-53 remain as originally filed.

Claims 33 – 46 and 54 have been withdrawn.

Summary of Claims Pending

Claims 1-32 and 47-53 are currently pending following this response.

Claims 33-46 and 54 have been withdrawn.

Remarks and Arguments are provided below.

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Election/Restriction

  Applicant affirms the election without traverse to prosecute the invention of Group I, claims 1-32 and 47-53. Claims 33-46 and 54 are herein withdrawn from consideration.

Response to Rejections under Section 112

  Claims 1 – 32 and 47 - 53 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

  The second paragraph of 35 U.S.C. § 112 states:

> "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

  MPEP 2173.05(u) states:

> "If the trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of the 35 U.S.C. 112, second paragraph."

  The limitations in question recite "a COBOL program" or some variation thereof. The Office Action suggested that "the trademark/trade name is used to identify/describe a family of products generated in the proprietary programming language called COBOL and, accordingly, the identification/description is indefinite." Thus, the claim is rendered indefinite because it lacks specificity.

  Applicant would like to respectfully submit that the determination of whether a claim is definite is a determination of "whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art." See MPEP 2171. Claim 1, for example, specifically recites a COBOL program, as opposed to other programs written using programming

languages such as C, C++, Visual Basic, or Java. Therefore, Applicant respectfully submits that this claim limitation is sufficient to enable those skilled in the art to draw a line between embodiments falling within the scope of this particular claim (COBOL programs) and those which do not (C, C++, Visual Basic, or Java).

Examiner Seye indicated in a telephone conversation on May 2, 2007 that a statement in the record as to which versions of COBOL Applicant intends to cover may be sufficient to overcome the rejection under 35 USC § 112, second paragraph. Applicant notes that the specification discloses in paragraph 027, "The COBOL program 12 may be any type of computer program written in the COBOL programming language, regardless of the version, vendor, level of compliance with the COBOL ANSI standard, specific compiler or operating system features of the COBOL system." As such, Applicant respectfully submits that the limitation of "a COBOL program" may include any version of a COBOL program known to those of ordinary skill in the art that is written in the COBOL programming language.

Applicant also respectfully submits that 35 USC § 112, second paragraph, does not require that claims be narrowed to the point of specifying a specific **version** of a specific type of program. This submission is supported by MPEP 2173.04 which states:

> "Breadth of a claim is not to be equated with indefiniteness. *In re Miller*, 441 F.2d 689, 169 USPQ 597 (CCPA 1971). If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph."

As such, while the limitation of "a COBOL program" may be broad, it is not indefinite.

This submission is further supported by the fact that there are issued patents with claims directed towards COBOL programs without specifying a specific version thereof.

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For example:

Claim 5 of U.S. Patent No. 6,330,711 to Knutson recites, "... wherein the program is written in COBOL."

Claim 1 of U.S. Patent No. 6,230,117 to Lymer, et al. recites, "...a COBOL program."

Claim 1 of U.S. Patent No. 5,640,550 to Coker recites, "...a COBOL program."

Accordingly, Applicant respectfully submits that Claims 1-3, 5-9, 13-16, 19-26, 29, 31, and 47-48 are not indefinite by statute or precedence and respectfully requests withdrawal of this rejection.

Response to Restrictions under Section 101

Claim 20 was rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In a telephone conversation on May 2, 2007, Examiner Zhen and Examiner Seye suggested amending the claim to recite the "software" as being stored on a computer-readable medium. Claim 20 has been amended herein as suggested. Applicant respectfully submits that claim 20 is now directed to statutory subject matter and respectfully requests the rejection under 35 U.S.C. 101 to be withdrawn.

Applicant Initiated Interview

Applicant thanks Examiner Abdou Seye and Examiner Li Zhen for their time and consideration of the arguments presented in the telephone conversation on May 2, 2007. In the interview Applicant clarified that distributed and asynchronous processing tasks were not available COBOL and the focus of the claims is for enabling various distributed and asynchronous processing tasks using COBOL programs. Applicant presented arguments that while some aspects

of the claim limitations were present in the applied art, the applied art did not disclose these aspects as part of a COBOL program as required by the claims. Examiner Zhen and Examiner Seye tentatively agreed with the arguments presented by Applicant, but indicated that further review and consideration of the applied art may result in a new rejection of the claim limitations. A detailed discussion of the differences between the applied art and the claim limitations follow. Examiner Zhen and Examiner Seye also indicated that upon further consideration of the claim limitations during the interview a further restriction of the claims may result.

Response to Restrictions under Section 103

Claims 1 - 32 and 47 – 53 were rejected under 35 U.S.C. as being unpatentable over Bachman et al., U.S. Patent No. 4,320,451 (hereinafter "Bachman") in view of Bratt et al., U.S. Patent No. 4,525,780 (hereinafter "Bratt").

The disclosure is related to implementing distributed and asynchronous processing in COBOL. As disclosed in paragraphs 006-008 of the disclosure, programming languages such as C and JAVA have functionality for performing distributed and asynchronous processing, such as shared memory and message queues, threads, semaphores and mutexes, events, signal handlers, and sockets. The distributed and asynchronous processing functionality available in C and JAVA was unavailable in COBOL. Because many businesses have legacy applications that have been developed in COBOL that are well suited for performing their intended tasks, it is difficult for businesses to abandon those applications. Rather than redeveloping these COBOL applications in C or JAVA, the legacy COBOL applications may be provided with an interface to cooperate with C or JAVA programs. The C or JAVA programs may then perform the distributed and asynchronous processing tasks that may be necessary in modern business environments.

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Rather than utilizing an interface with another programming language, such as C or Java, the disclosure enables distributed and asynchronous processing tasks using functionality native to COBOL. In particular, the disclosure employs a technical layer to enable distributed and asynchronous processing. Paragraphs 027-039 of the disclosure provide a detailed description of the technical layer. For example, the technical layer may be COBOL modules, routines, or paragraphs that may be defined within a COBOL library. The COBOL library may then be linked into a COBOL program, such that the COBOL program may utilize the functionality of the technical layer through calls to the COBOL modules, routines, or paragraphs. The claims are directed to the distributed and asynchronous functionality enabled in a COBOL program through the disclosed technical layer. The prior art relied on is not directed to enabling distributed and asynchronous functionality in COBOL programs. The difference in the goals of the disclosure and the prior art bring to light the differences between the claim limitations and the cited portions of the prior art as discussed in more detail below.

Claim 1:

I.　　Bachman does not disclose a COBOL that maintains an index including a process identifier and an event associated with a child process.

The Office action relied on Figs. 1a and 1d as well as column 37, lines 60-64 of Bachman to teach these limitations. Bachman is directed to an event manager that utilizes an extended semaphore architecture. One skilled in the art will recognize that a semaphore enables the use of a shared resource in a multi-process environment. For example, the semaphore may regulate the shared resource such that only one process may have access to the shared resource at a time.

Looking to Fig. 1a of Bachman, there is shown a semaphore for enabling process (pr) access to a reusable resource object (ro). Bachman describes the semaphore of Fig. 1a in column

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1, lines 25-35; column 13, lines 26-60, and column 14, lines 11-23. When a process (pr) requires access to the resource object (ro) it may issue a wait on event variable (ev). If an event occurrence (evo) is outstanding, then the resource object (ro) may be assigned to the process (pr). The process may then utilize the resource object (ro). If the resource object (ro) is already assigned to another process, then upon issuing a wait on event variable (ev), the process is inserted into a set of processes (epd) waiting on the event variable.

Upon a process (pr) finishing utilizing the resource object (ro), the process may issue a post on event variable to release the assignment of the resource object (ro) to the process. The process at the head of the queue of processes waiting on the event variable may have the resource object (ro) assigned to it. In this way, multiple processes may have access to a shared resource object.

The semaphore illustrated in Fig. 1a does disclose an event variable (i.e., a variable that indicates the availability of a resource object) and a process identifier (an identification of a process that the resource object is currently assigned to and the set of processes that are waiting to use the resource object). The semaphore illustrated in Fig. 1a does not disclose that the process identifier and event are associated with a child process as required by the claims.

Fig. 1d similarly discloses a semaphore, as described in detail in columns 17-19 of Bachman. While the structure of the semaphore is different than the one shown in Fig. 1a, the semaphore of Fig. 1d also does not disclose that the process identifier and event are associated with a child process as required by the claims. More importantly, neither of the semaphores illustrated in Figs. 1a and 1d are disclosed to be maintained in a COBOL program. Therefore neither of Figs. 1a and 1d disclose a COBOL program that maintains an index including a process identifier and an event associated with a child process.

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Looking to the disclosure in column 37, lines 60-64, Bachman discloses a signal semaphore that signals the occurrence of an event and a message semaphore that enables messages to be passed between processes. Bachman does not include any disclosure of an index including a process identifier and an event associated with a child process as required by the claim.

Bratt does not cure the deficiencies of Bachman. As disclosed in the abstract, Bratt is directed to storing objects in memory with unique and permanent identifier codes. This identification scheme prevents unauthorized access to the objects. Bratt does not provide any teaching or suggestion for modifying the semaphore of Bachman such that the process identifier and event are associated with a child process as required by the claims. Further, Bratt does not provide any teaching or suggestion of modifying the semaphore of Bachman such that it is maintained by a COBOL program as required by the claims.

II.   Bachman does not disclose placing the child process in a wait state.

The term "child process" is a term of art and must be afforded its art-recognized accepted meaning consistent with applicant's use of the term. See MPEP 2173.05(a)(III). Bachman does not disclose any child processes. While the disclosure in column 37, lines 60-64 describes a receiving process entering a wait state if the semaphore doesn't have any signals, the receiving process is not a "child process". Bratt does not cure the deficiencies of Bachman as described above.

III.   Bachman does not disclose the COBOL program signaling the child process to run using the process identifier and the event associated with the child process.

The disclosure in column 37, lines 60-64 describes that the receiving process remains in the wait state until another process sends a signal to the semaphore. There is no disclosure that a COBOL program signals the receiving process to run as required by the claims. Further, there is

no disclosure that the receiving process is signaled using the process identifier an the event associated with the child process as required by the claims. Bratt does not cure the deficiencies of Bachman as described above.

The limitations of claims 2-19 are similarly not taught or suggested by the prior art of record for at least the reasons detailed above.

Claim 20:

IV.   Bachman does not disclose a first COBOL program, a second COBOL program, or a module callable by the first and second COBOL programs.

While Bachman does disclose a semaphore, there is no teaching or suggestion in Bachman that the semaphore is implemented through calls by COBOL programs. As described in detail above, COBOL had a very limited functionality and semaphores were unavailable in COBOL. The claimed module provides a mechanism through which semaphores are enabled in COBOL.

Bratt does not cure the deficiencies of Bachman. In particular, Bratt does not provide any teaching or suggestion of implementing a semaphore callable by COBOL programs.

The limitations of claims 21-32 are similarly not taught or suggested by the prior art of record for at least the reasons detailed above.

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Claim 47:

V.   <u>Neither Bachman nor Bratt disclose a COBOL program registering a signal handler with an operating system.</u>

Bachman discloses an event handler in column 7, lines 51-66. Bachman does not provide any teaching or suggestion of a COBOL program operating in conjunction with the event handler, let alone a COBOL program registering the event handler with an operating system as required by the claims. Similarly, Bratt does not provide any teaching or suggestion of a COBOL program registering an event handler with an operating system as required by the claims.

Conclusion

Applicant respectfully submits that the present application is in condition for allowance for the reasons stated above. If the Examiner has any questions or comments or otherwise feels it would be helpful in expediting the application, he is encouraged to telephone the undersigned at (972) 731-2288.

The Commissioner is hereby authorized to charge payment of any further fees associated with any of the foregoing papers submitted herewith, or to credit any overpayment thereof, to Deposit Account No. 21-0765, Sprint.

Respectfully submitted,

Date: 3/4/2007

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